

V. Improvements Alternatives

Bicycle Improvement Alternatives

In order to accommodate varying bicycle user needs and road conditions, a variety of bicycle facility improvement alternatives, both off-road and on-road, are provided by AASHTO (American Association of State Highway and Transportation Officials) [appendix 5a](#) and the FHWA (Federal Highway Administration) [appendix 5b](#) as design guidelines. Both the AASHTO and FHWA are adhered to by most community' bicycle facility designs. Although the bicycle classifications are structured differently, the FHWA guidelines reference the AASHTO standards heavily.

The AASHTO guidelines are used for this plan's on-road and off-road bicycle facilities recommendations. AASHTO recommends four classifications as bicycle facility improvements:

- Shared Roadways
- Signed Shared Roadways
- Bike Lanes
- Shared Use Paths

A description of each bicycle classification from AASHTO' 1999 [Guide for the Development of Bicycle Facilities](#) is provided in [Appendix 5a](#). These bicycle classifications supply the choices of improvement alternatives for the City of Canandaigua's Action Transportation Plan recommendations found in this document.

Following are guidelines and diagrams for each classification of bicycle facility improvement.



1. Shared Roadways

To varying extent, bicycles will be used on all highways where they are permitted. Because most of Canandaigua's existing highways have not been designed with bicycle travel in mind, most of the roadways can and need to be improved to more safely accommodate bicycle traffic. Design features that can make roadways more compatible to bicycle travel include bicycle-safe drainage grates, improved railroad crossings, smooth pavements, shoulder improvements and expansion, and wide curb lanes.

Width is the most critical variable affecting the ability of a roadway to accommodate bicycle traffic. In order for bicycles and motor vehicles to share the use of a roadway without compromising the level of service and safety for either, the facility should provide sufficient paved width to accommodate both modes. The City of Canandaigua is fortunate to have many of its roadways with sufficient width to accommodate both bicyclists and motor vehicles. Through implementing improvement alternatives based on the unique elements of each roadway the City's roadways will become more bike friendly. Some of the alternatives to be incorporated into the recommendations for shared roadways are:

- Paved shoulders
- Motor vehicle travel lane designation and decreased width
- On-Street parking re-evaluation
- Pavement surface quality
- Drainage inlet grate design

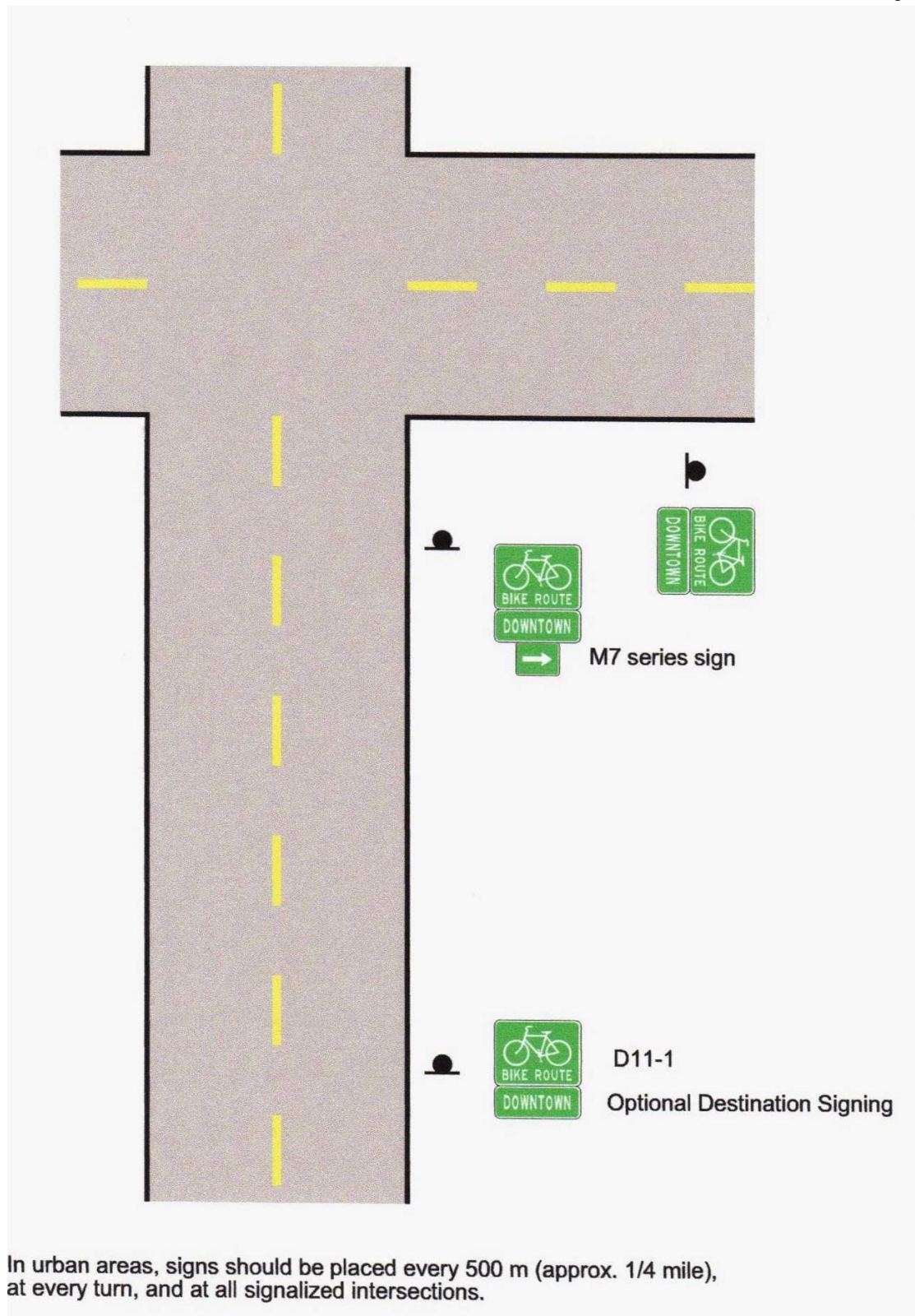
2. Signed Shared Roadways

Signed shared roadways are those preferred bike routes identified by signing (Figure 5a). The following criteria were considered for the recommendations:

- The route provides through and direct travel in bicycle-demand corridors.
- The route connects discontinuous segment of shared use paths or other bike routes.
- Street parking evaluation
- Smooth surface provided, including bicycle-safe drainage grates
- Maintenance of route to be sufficient to prevent debris accumulation
- Street width generally meet width requirements compared to parallel roads.
- Routes provide efficient and safe connectivity to city destinations and regional trails connections

Most of the priority roadways in Canandaigua fit the shared road criteria.

Figure 5a

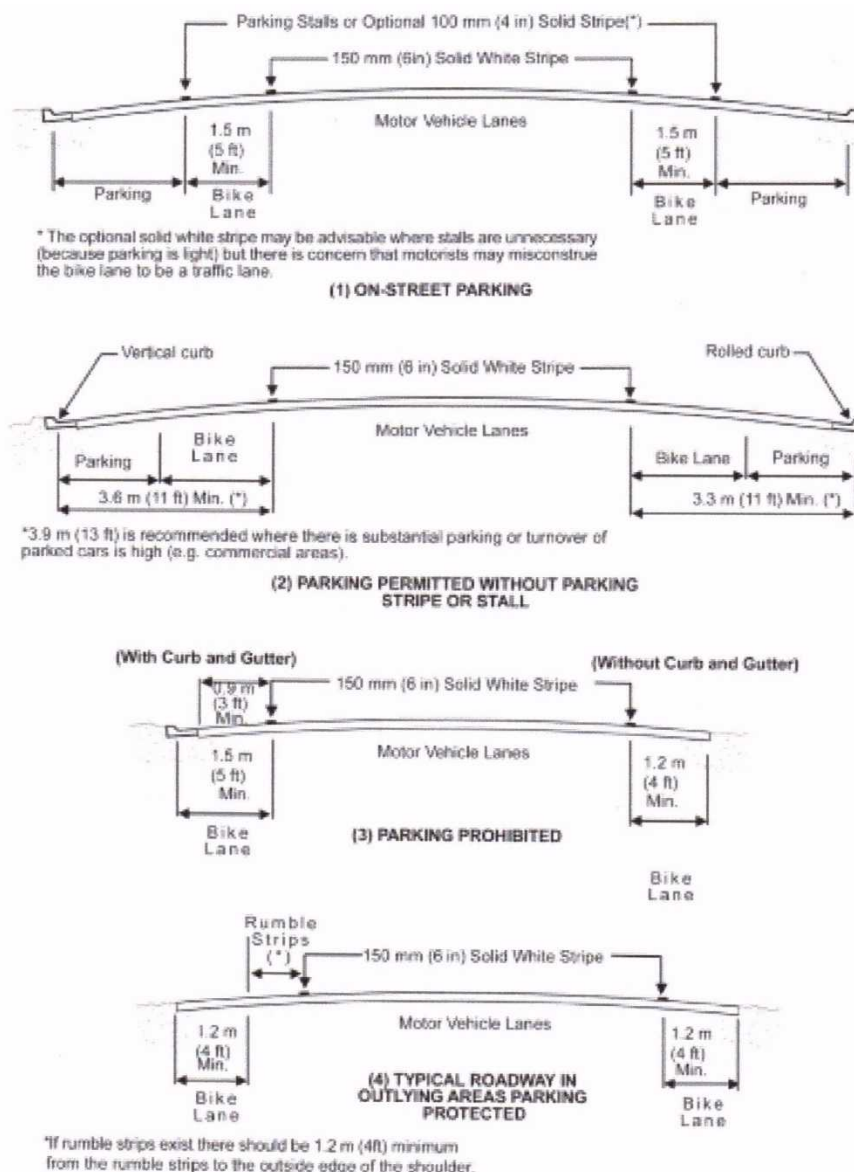


3. Bike Lanes

Bike lanes can be incorporated into a roadway when it is desirable to delineate available road space for preferential use by bicycles and motorists and to provide for more predictable movements by each. Bike lanes markings, as shown in Figure 5b, can increase a bicyclist's confidence in motorists not straying into their path of travel. Likewise passing motorists are less likely to swerve to the left out of their lane to avoid bicyclists on their right.

Street width, parking lane width and bike lane width are critical when considering improvement applications. Due to not meeting the width requirements set by AASHTO most of the City's roadways will not have bike lanes recommended.

Figure 5b - below shows typical bike lane facilities:



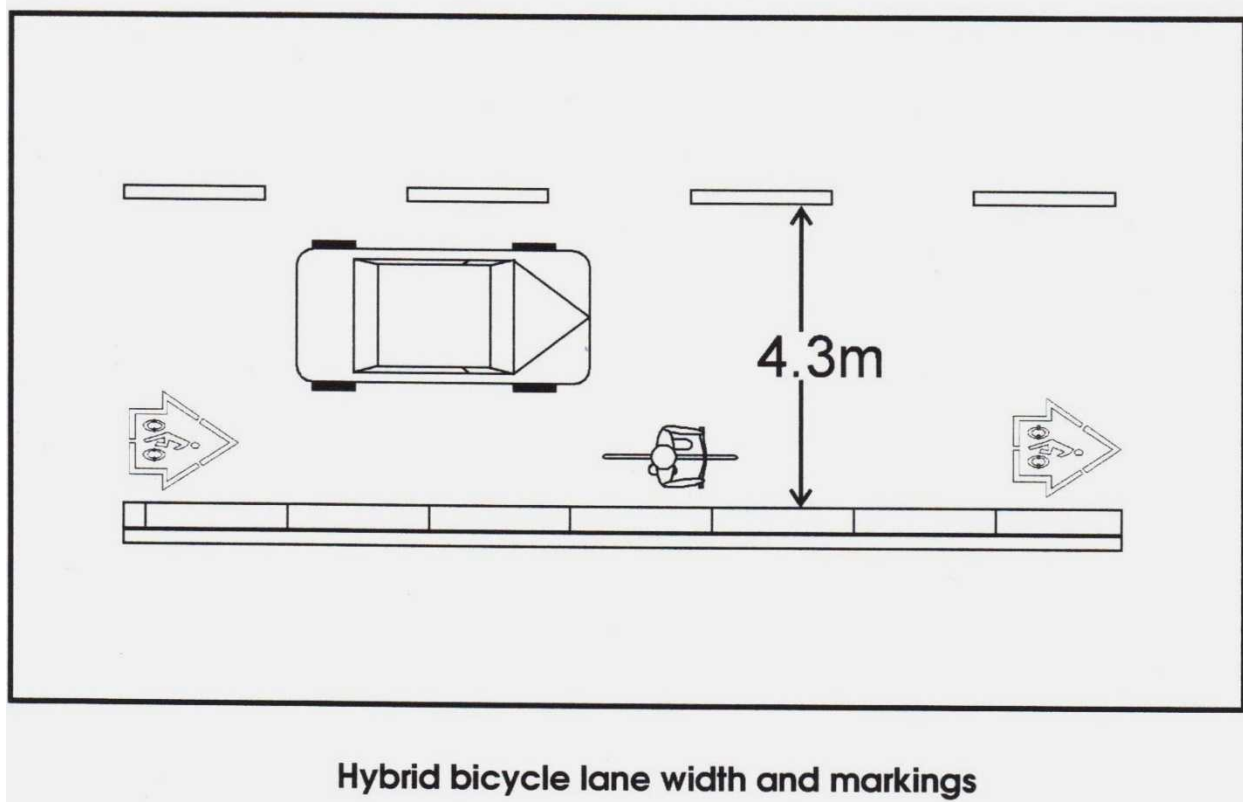
4. Hybrid Bicycle Lanes [appendix 5c](#)

Hybrid bicycle lanes are a combination of wide curb lanes and bicycle lanes. Hybrid bicycle lanes offer the advantages of conventional bicycle lanes, without many of the problems associated with bicycle lanes. Because of this, they have begun attracting the attention of bicycle professionals and the CWC has incorporated them into the plan's improvement alternatives.



Figure 5c depicts a typical hybrid bike lane with stencils

Figure 5c



Hybrid bicycle lane width and markings

5. Shared Use Paths

Shared Use paths are facilities on exclusive right-of-way and with minimal cross flow by motor vehicles. Users are non-motorized and may include but are not limited to: bicyclists, wheelchair users (both motorized and non-motorized) and pedestrians, including walkers, runners, people with strollers, and people walking dogs. These facilities are most commonly designed for two-way travel.

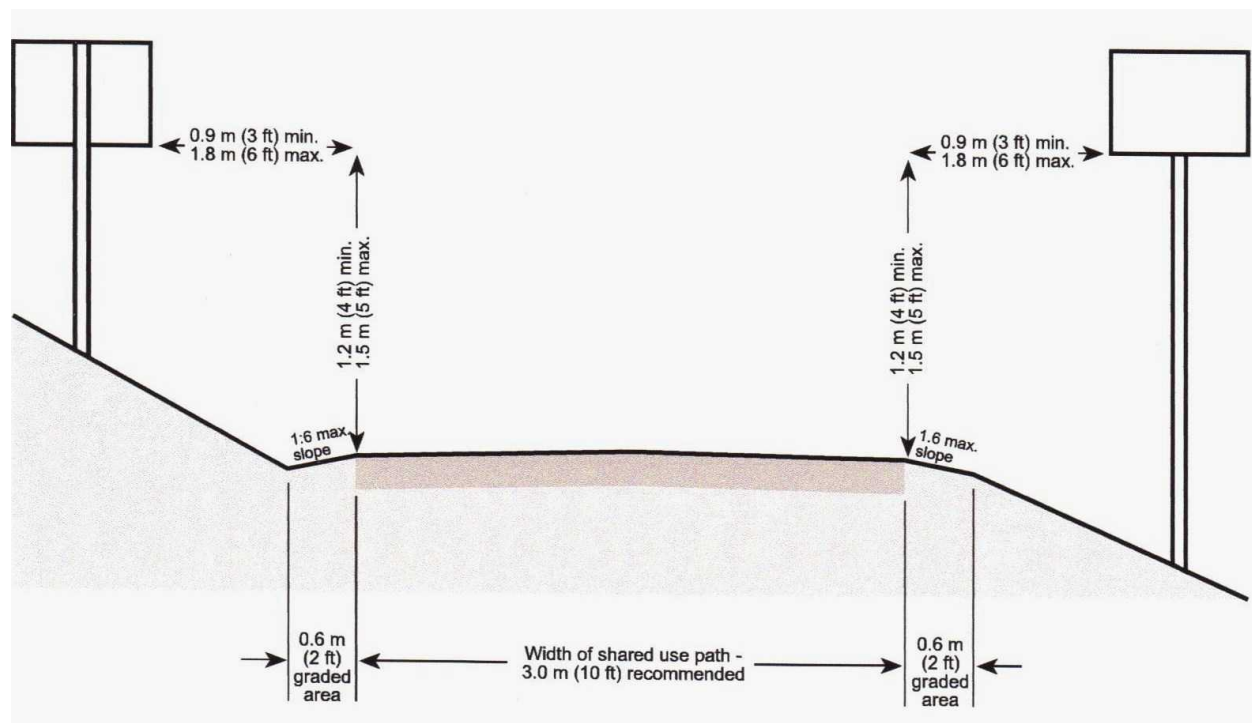
Shared use paths can serve a variety of purposes. They can provide users with a shortcut through a residential neighborhood. Located in a park, along a stream, abandoned or active railroads and utility right-of-ways they can provide alternative transportation routes and recreational opportunities. Ideally shared use paths should be paved to accommodate all users including skateboarders and roller bladders. A crushed stone service is adequate but not ideal.



Shared use paths should be thought of as a complimentary system of transportation routes for bicyclists and others that serve as a necessary extension to the roadway network. Shared use paths should not be used to preclude on-road bicycle facilities, but rather to supplement a system of on-road bike lanes, wide outside lanes, paved shoulders and bike routes.

Figure 5d demonstrates a typical shared use path cross-section:

Figure 5d



Pedestrian Improvement Alternatives

Pedestrians face a variety a variety of challenges when they walk along and across streets with motor vehicles. Residents are asking for help to “slow traffic down”, “make it safer to cross the street” and “make the streets more inviting to pedestrians”.

The following is a list of objectives the CWC faced when working to provide pedestrians safety and mobility in the City of Canandaigua:

- Reduce speed of motor vehicles
- Improve sight distance and visibility for motor vehicles and pedestrians
- Reduce volume of motor vehicles
- Reduce exposure time for pedestrians
- Improve access and mobility for all pedestrians, especially seniors and those with disabilities.
- Encourage walking by improving aesthetics, safety, and security.
- Improve compliance with traffic laws (motorists and pedestrians)
- Eliminate behaviors that lead to crashes (motorists and pedestrians)

Each of these objectives has been achieved to a certain extent by implementations completed prior to the document. The CWC looks to build on these existing treatments through a variety of individual treatments presented in this chapter.

In addition, many of the treatments will accomplish two or more of the objectives as well as enhance the bicycle route system.

Roadway improvements can often reduce the likelihood of a pedestrian crash. Physical improvements are most effective when tailored to an individual location and traffic problem. Factors considered by the CWC when choosing an improvement recommendation include: location characteristics, vehicle volume, type and speed, design of a given location, city laws and ordinances, and financial constraints.

Using the Pedestrian Safety Guide and Countermeasure Selection System (FHWA-SA-04-003) chapters 3 and 5 ^{Appendix 5d & 5e} the CWC examined the 49 engineering, education, and enforcement countermeasures in formulating the Action Transportation Plan’s recommendations.

According to the resident survey:
appendix 2a

Out of 338 respondents;

88 (26%) stated slower traffic speed would encourage walking or biking for local errands. (Question 16)

93 (28%) respondents stated less traffic would encourage walking or biking for local errands. (Question 16)

67 (20%) respondents stated less traffic would encourage children to walk or bike to school, parks, for exercise or to do errands. (Question 17)

70 (21%) respondents stated slower traffic speed would encourage children to walk or bike to school, parks, for exercise or to do errands. (Question 17)

Public Transportation Improvement Alternatives

Good public transportation is as important to the quality of an active transportation system as bike-friendly roadways or shared-use paths. Well-designed transit routes and pleasant, accessible stops are essential to a usable system. Factors examined for the recommended improvements were:

- Safety
- Convenient access to buses
- Convenient bus stop location for pedestrians, cyclists, motorists
- Comfortable waiting places
- Bus stop location and visibility
- Signing
- Lighting
- Adequate bus stop seating
- Bicycle racks and storage
- Convenient motor vehicle parking
- ADA accessible



Fully Accessible Bus Stop with Bicycle Storage